

PROJECT DESCRIPTION

EQUIPMENT LISTS (CON'T.)

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 410 (East-West Hwy) and Jones Mill Road/Beach Drive in Montgomery County. The modification is necessary due to the elimination of the westbound MD 410 (East-West Hwy) channelized right turn lane, the rebuilding of the existing channelizing islands and pedestrian movement changes. MD 410 (East-West Hwy) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA seven-phase, semi-actuated mode, with the MD 410 (East-West Hwy) approaches running concurrently. Exclusive/Permissive left turn phases shall be provided for both approaches of MD 410 (East-West Hwy). A pedestrian phase with pushbutton actuation shall be provided across the east leg of MD 410 (East-West Hwy). The pedestrian phases across Jones Mill Road and Beach Drive shall be on recall. Farside sampling stations shall be provided on both legs of MD 410 and Jones Mill Road at this intersection. An Exclusive/Permissive left turn phase shall be provided for the southbound approach of Jones Mill Road. The Jones Mill Road/Beach Drive approaches shall also run concurrently.
- The existing base-mounted cabinet shall be maintained at this intersection.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.
- Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Mr. Bob Gonzales at (301) 217-2182 seventy-two hours in advance of intended work.

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
8087	2 Each	R10-3C (MOD) pedestrian education sign (9" x 12").
8088	2 Each	D3-2 "East-West HWY 3200 >, East-West HWY <3200" dual-faced sign, (variable x 16") span wire mounted.
8088	1 Each	D3-2 MOD "(arrow) Jones Mill RD <8600, Jones Mill RD (arrow) <8600" dual-faced sign, (variable x 16") span wire mounted.
8088	1 Each	D3-2 MOD "(arrow) Beach DR, Beach DR (arrow)" dual-faced sign, (variable x 16") span wire mounted.
8088	3 Each	R3-5L "LEFT TURN ONLY" sign, (30" x 36") span wire mounted.
8088	1 Each	R3-6R "THRU AND RIGHT TURN" sign, (30" x 36") span wire mounted.
8088	3 Each	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") span wire mounted.
8088	1 Each	Associated Shield Assembly "M3-2 "EAST" (24" x 12"), M1-6 "MARYLAND 410" (30" x 24"), M6-1 "ARROW" (21" x 15")" sign, (30" x 51") ground mounted with hardware.
8088	1 Each	Associated Shield Assembly "M3-2 "EAST" (30" x 15"), M1-6 "MARYLAND 410" (48" x 36"), M6-1 "ARROW" (21" x 15")" sign, (48" x 75") ground mounted with hardware.
8088	1 Each	Associated Shield Assembly "M3-4 "WEST" (24" x 12"), M1-6 "MARYLAND 410" (30" x 24"), M6-1 "ARROW" (21" x 15")" sign, (30" x 51") ground mounted with hardware.
8088	1 Each	Associated Shield Assembly "M3-4 "WEST" (30" x 15"), M1-6 "MARYLAND 410" (48" x 36"), M6-1 "ARROW" (21" x 15")" sign, (48" x 75") ground mounted with hardware.
8102	2 Each	30' steel strain pole. (Note: Anchor bolts will be 2" x 90".)
8106	1 Each	10' breakaway pedestal pole with transformer base.
8122	5 Each	12", one-way, three-section (R,Y,G) traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.
8122	4 Each	12", one-way, five-section (R,Y,A,Y,G,A,G) (left arrows) traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.
8124	5 Each	12", one-way, two-section (DW,W) symbolic pedestrian signal head with adjustable bracket for pole mounting and outway visors.
8124	1 Each	12", one-way, two-section (DW,W) symbolic pedestrian signal head having proper post top adapter for pedestal mounting and outway visors.
8126	2 Each	Pedestrian pushbutton and R10-3C pedestrian education sign. (Note: Sign to read "PUSH BUTTON CROSS EAST-WEST HWY".)

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
2002	3 C.Y.	Test pit excavation.
	L.F.	Preformed pavement marking tape, white (12" width for crosswalks).
	L.F.	Preformed pavement marking tape, white (24" width for stoplines).
8001	6.5 C.Y.	Concrete foundation.
8003	30 L.F.	1" galvanized steel electrical conduit (detector wire sleeve).
8011	40 L.F.	3" galvanized steel electrical conduit (pushed).
8031	40 L.F.	1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
8036	140 L.F.	3" polyvinyl chloride electrical conduit (Schedule 40) (trenched).
8043	3 Each	Ground rod, 3/4" diameter x 10' length with clamp.
8060	5550 L.F.	Loop wire (No. 14 A.W.G.) enclosed in 1/4" flexible tubing.
8062	2505 L.F.	2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).
8064	420 L.F.	2-conductor electrical cable (No. 14 A.W.G.).
8065	355 L.F.	3-conductor electrical cable (No. 14 A.W.G.).
8066	640 L.F.	5-conductor electrical cable (No. 14 A.W.G.).
8067	1050 L.F.	7-conductor electrical cable (No. 14 A.W.G.).
8070	140 L.F.	2-conductor electrical cable (No. 12 A.W.G.) copper type TC.
8075	55 L.F.	1-conductor electrical cable (No. 6 A.W.G.) stranded bare copper ground wire.
8092	1 Each	10' lighting arm.
8097	1 Each	250W HPS luminaire.
8109	3 Each	3" weatherhead.
8112	2 Each	Grout pole base.
8113	320 L.F.	3/8" steel span wire.
8114	320 L.F.	1/4" steel tether wire.
8119	2 Each	Backguy.
8131	6 Each	Traffic signal handbox (pullbox).
8132	1445 L.F.	Sawcut.
8143	2 Each	Relocate existing sign.
8147	2 Each	Transfer existing overhead communications cable.
8148	3 Each	Removal and salvage of signs less than 50 S.F.
8153	3 Each	Removal of span and associated wiring.
8156	2 Each	Removal and salvage of strain pole.
8158	1 Each	Removal and salvage of pedestal pole.
8161	3 Each	Removal of signal handbox.
8162	8 Each	Removal and salvage of traffic signal head.
8162	2 Each	Removal and salvage of pedestrian signal head.

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO: MONTGOMERY COUNTY SIGNAL SHOP, BUILDING "C", 1283 SEVEN LOCKS ROAD, ROCKVILLE, MARYLAND 20854. CONTACT MR. KEITH LORD @ (301) 279-1291, FORTY-EIGHT (48) HOURS IN ADVANCE OF RETURNING EQUIPMENT.

QUANTITY	DESCRIPTION
1 Each	R3-5L sign, span wire mounted.
1 Each	R10-12 sign, span wire mounted.
1 Each	D3-2 sign, span wire mounted.
1 Each	30' steel strain pole.
1 Each	10' breakaway pedestal pole.
4 Each	12", one-way, three-section traffic signal head, span wire mounted.
1 Each	12", one-way, two-section pedestrian signal head, pedestal mounted.
1 Each	12", one-way, two-section pedestrian signal head, pole mounted.

NOTE: All equipment and/or materials to be removed by the Contractor but not listed above are to become the property of the Contractor.

SEQUENCE OF OPERATION SHEET

MD 410 (EAST-WEST HWY)
RUNS IN AN
EAST-WEST
DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND
MD 410 (EAST-WEST HWY) AND
INTERSECTION: JONES MILL ROAD/BEACH DRIVE

SIGNAL HEAD INDICATIONS					
SIGNAL NO.	5-8-11-14	1,2	3,4,6,7,12,13		15-20
TOTAL:	6	2	6		6
LEGEND	(R)	(Y)	(R)	(R)	(R)
OPTICALLY LIMITED	(Y)	(Y)	(Y)	(Y)	(Y)
R RED	(G)	(G)	(G)	(G)	(G)
Y YELLOW	(G)	(G)	(G)	(G)	(G)
G GREEN	(G)	(G)	(G)	(G)	(G)
ARROW	(G)	(G)	(G)	(G)	(G)
FLASHING	(G)	(G)	(G)	(G)	(G)

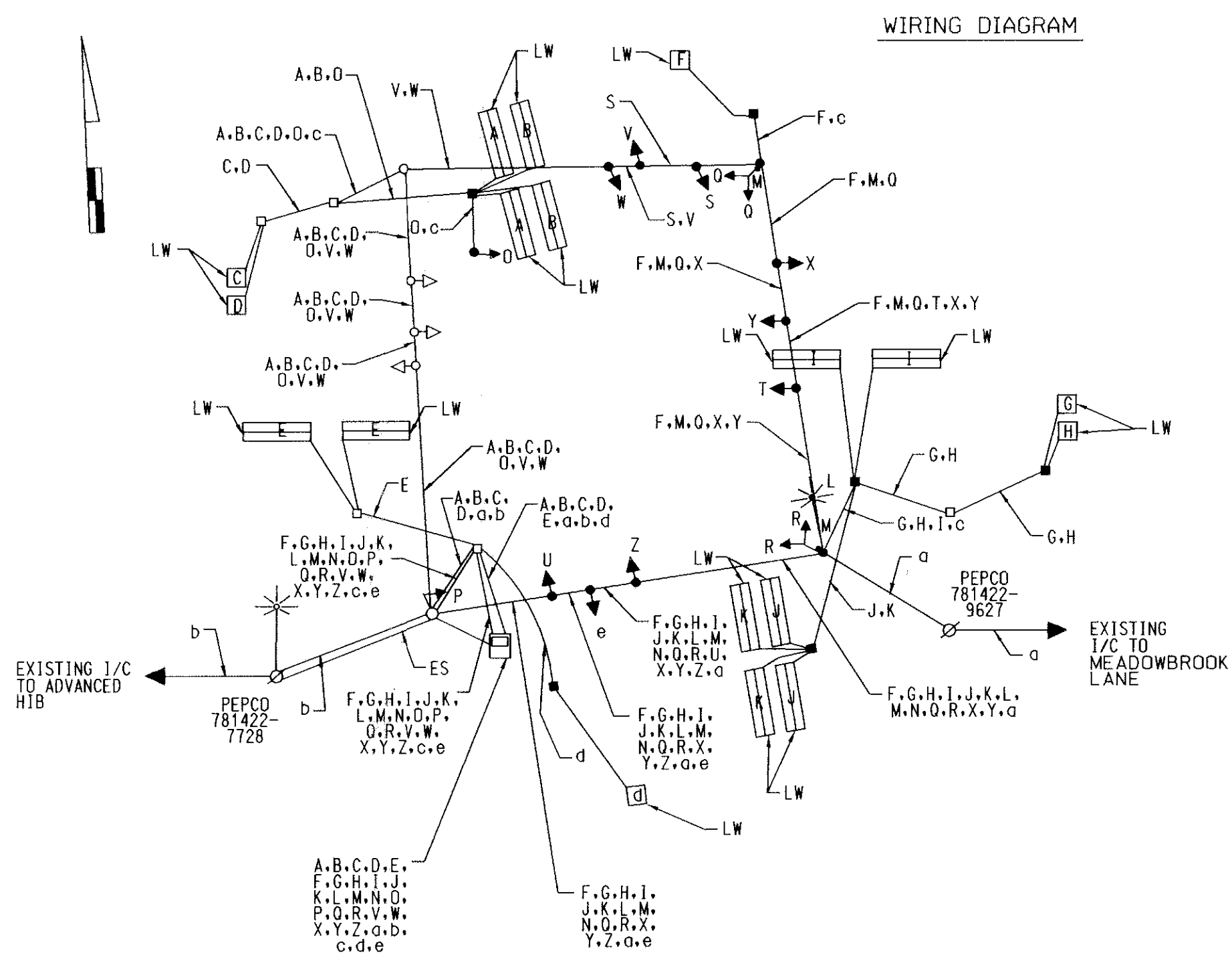
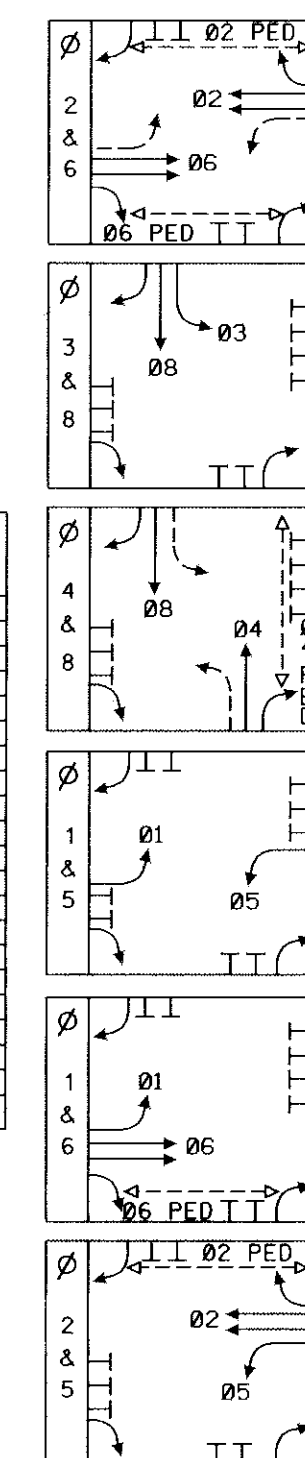
SEQUENCE OF OPERATION																				
SIGNAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
3	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
4	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
5	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
7	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
8	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
9	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
11	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
12	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
13	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
14	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
15	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
16	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
17	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
18	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
19	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
20	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

NOTES: SIGNAL HEADS 1 & 2 ALTERNATELY FLASH YELLOW DURING INTERVALS 3-21

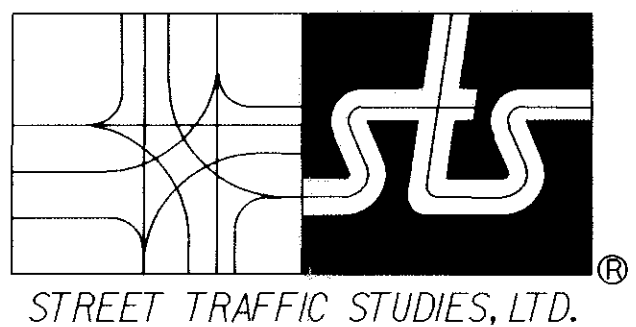
SUBMITTED: R.R. ZACHERL CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

NO.

PHASING NORTH



WIRING KEY	
A	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED)
B	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) COPPER TYPE TC
C	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
D	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
F	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
G	EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE TO BE PULLED BACK AND ROUTED TO PROPOSED CABINET
H	EXISTING INTERCONNECT CABLE FROM HYB TO BE MAINTAINED
I	1-CONDUCTOR ELECTRICAL CABLE (NO. 6 A.W.G.) STRANDED BARE COPPER GROUND WIRE
J	LOOP WIRE (NO. 14 A.W.G.)
K	EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY PERIOD
L	NOTES: ALL EXISTING ELECTRICAL CABLE NOT SHOWN IS TO MAINTAINED



Gateway International
1302 Concourse Drive, Suite 104
Linthicum, Maryland 21080
Ph (410) 859-3553
Fax (410) 859-3579

3266G1.DGN

REVISIONS

APPROVALS

ASST. CHIEF TEDD SECTION

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

MD 410 (EAST-WEST HWY) AND
JONES MILL RD / BEACH DR
GENERAL INFORMATION

DRAWN BY: THACKER

CHECK BY: _____

DATE: FEBRUARY 24, 1998

SCALE: N/A

COUNTY: MONTGOMERY

LOG MILE: 15041001.88

F.A.P. NO. _____

S.H.A. NO. _____

TS NO.

2135B-GI

T.I.M.S. NO.

C 716

SHEET NO.

3 of 3